ABSTRACT

A method and apparatus for multicasting of a multi-packet message are disclosed. Data to be transmitted as a message are divided into *N* sets, each set being encoded to generate encoded data. A set of parity bits is separated from each of the *N* sets of encoded data. The *N* sets of separated parity bits are encoded by a systematic code with a predetermined distance *S* across the *N* sets, resulting in *N'* parity-bit packets. The *N'* parity-bit packets are encoded with a code that is selected so that each receiving station decodes the *N'* parity-bit packets with a high probability. The *N*-packet message, comprising the *N* sets of encoded data less the separated bits, and the *N'* packets are multicasted. If less than *S* packets of the *N*-packet message fail to decode at a receiving station, the receiving station recovers all *N* packets using the *N'* packets.